Research on Security of Accounting Information System in the Era of Big Data

Yang Wang

Dalian University of Science and Technology, Liaoning, China

*Corresponding author e-mail: fusheng.li@cumt.edu.cn

Abstract. Since the 21st century, information technology has made great progress. Especially in recent years, the concept of big data has attracted increasing attention. The construction and maintenance of accounting information security and accounting information system are also facing great opportunities and challenges. At present, in the era of big data, the importance of accounting information security and accounting work is increasing. Failure to make a good analysis of accounting information system will lead to disclosure of financial information, and even harm the economic interests of enterprises in serious cases. This paper takes strengthening information security as the theme and analyzes the development of accounting information system security.

Keywords: Big Data: Accounting Information System: Security

1. Necessity and Characteristics of Accounting Information System Security in The Era of Big Data

1.1. Concept of Accounting Information System Security in the Era of Big Data

Big data mainly refers to a large amount of data, which can acquire, analyze and process data information in a short time, and then solve difficult problems that cannot be solved manually through the processed information. In the accounting industry, big data can be used to collect and process information resources while ensuring the efficiency of information processing. Improve the comprehensive utilization efficiency of information. The most important thing is to realize the processing of classified information and effectively promote the progress and development of various industries.

With the extensive use of various software, the importance of big data in the information industry and the Internet industry has become increasingly prominent. With the advent of the era of big data, the development of the accounting industry presents a different state. As accounting professionals, we should analyze and deal with these resources. When you need information, you can get it quickly. Through the processing of relevant software data and information, the resource sharing of various industries is realized and the overall utilization efficiency of resources is effectively improved.

1.2. Necessity of Accounting Information System Security in the Era of Big Data

With the birth and rapid development of information technology, today's society is gradually changing from an industrial society to an information society. The era of knowledge economy and information technology have come, and the accounting environment has changed greatly.

The emergence of the network economy has put forward new requirements for the traditional accounting profession, which requires that the accounting profession must make changes, and has an unprecedented strong impact on the concept, theory and method of traditional accounting. The financial workers must innovate the accounting information system in an all-round way so that they can adapt to the requirements of the new economic form.

The era of big data not only provides advanced technical means for accounting information system, but also increases the importance of accounting information security in the era of big data. All aspects of the society, whether external information needs or internal information users, have higher requirements for information collection, processing and transmission. With the increasing openness and liquidity of information, these important accounting information data flow with it and are easily used for illegal purposes by some people or enterprises with ulterior motives. Therefore, it is very necessary to improve the security of accounting information system, no matter for individuals, enterprises or countries.

2. Problems Existing in the Security of Accounting Information System in the Era of Big Data

2.1. Important Information is Stolen or Lost

Accounting information system uses network technology, so that the system has the characteristics of sharing and openness, for the convenience of users, but at the same time sharing and open, but also make external criminals take advantage of them. They take advantage of the limitations of the Internet to steal and destroy financial information. On the one hand, there is no encrypted traffic on the Internet to realize user sharing and open system, which leads to potential risks and problems in the process of changing personal information of users. There are many methods of interception and hijacking. Even on the Internet, some people provide methods for free, which also leads to the rampant spread of system destruction methods on the Internet. More and more people begin to try to attack the system, which poses a great challenge to the security of the system. The key to the attack of information system is to take advantage of the open characteristics of network system, and the open and shared nature of network system also allows many business users to access the financial information of the whole enterprise through authorized permissions, and increase the chance of financial information theft.

Professionals will also take advantage of their position to commit fraud. According to statistics at home and abroad, although the number of errors and accounting frauds in the use of network accounting information system is decreasing, the losses caused by errors and fraud are more serious. First of all, the accounting information system in use process will leave traces, these tracks will be hackers use tools, also some operators itself can we take advantage of the convenience of position to get illegal interests, second, because of the network accounting information system is not restricted, management may be in the internal control fraudulent, and without the constraints of the internal control. The characteristics of management are often granted to accounting information systems with high authority, which facilitates the use of rights fraud.

2.2. The Accounting Information System is Vulnerable to Hacker and Virus Attacks

Hacking. There are many ways for hackers to attack, most of which take advantage of the vulnerabilities of the system and computer. The existence of these vulnerabilities gives hackers an opportunity to use illegal means to send additional data to the target system, so THA. The server cannot process it. Thus causes the system to stop the service, the system crash is serious. In hacker's attack, Trojan horse is very common and more efficient attack means, through the system administrator's password to achieve the purpose of attack. This attack mode is usually aimed at the

computer system, and the result of the attack will cause the computer system to run slowly or even crash.

The main risks facing the computer virus is a computer system, and the characteristics of computer virus led to the event of a computer virus will spread in a very short period of time, can't control, computer viruses replicate characteristics will produce great damage to the Internet, also be more famous computer viruses, network worms can inner circulating on the Internet in a short time, destroy the network environment.

2.3. Lack of Professional and Technical Personnel

In the network accounting information system, relevant personnel are required to have professional knowledge of accounting and information technology. In general enterprises, professional information technology training should be passed before the accountant. However, in the actual training process, there is still a certain gap between information technology and the actual needs of relevant personnel. The progress of science and technology, and so did the human society gradually update, people's life style also is in the obvious change, for the enterprise, its business model has had the obvious change, also in the accounting work, on the one hand, many older accountants familiar with the accounting business, but they are limited to computer computerization, unable to grasp the operation of the network accounting information system. Although young people are more accustomed to the pace of the Internet era, but in accounting is relatively young, lack of experience. In addition, the early development of Accounting software in China was mainly based on computer talents. They know little about meetings, auditing and financial management. It was not until later that the computer and the accountant became forces for common development. In this case, accounting personnel do not understand the late development of accounting software, so in the process of use of any problems, accounting practitioners can not deal with, unable to solve the actual problems, resulting in the accounting system failure, unable to meet the actual needs. Although some colleges and universities in Our country open to the establishment of accounting information technology courses, but the number is not large, the talent training is not enough to meet the needs of the whole society.

Network environment put forward higher request to the person, let the information transmission network times presents new characteristics, for accounting professionals, their moral quality and professional ability has also been a great challenge, in the accounting information security, practitioners of moral risk as well as the face of one of the major sources of risk, the enterprise accounting practitioners must abide by the professional norms, disclose the relevant information to the related global organization. This phenomenon requires financial personnel to have a very deep understanding of China's relevant laws and regulations as well as industrial policies and norms. Only in this way can they really improve their own ability and effectively deal with risks. This is not a small challenge for accounting practitioners.

2.4. Lack of Effective Supervision

In the era of big data, many business models have changed. With the development of the Internet, its unified technical standards have become the support of cloud computing technology, and the era of big data has also realized the unification of technologies. However, with the development of science and technology, the dissemination of information is no longer controlled gradually, and the technical standards of big data also form various trends, which make the application of technology chaotic. Therefore, formulating relevant standards of accounting work safety is an effective way to solve the problem of technology promotion. Special technical standards are mentioned in the relevant report. The development of the accounting profession needs to develop in accordance with these technical standards so as to realize the development of standardization. Information security is essentially the most important part of the work of accounting information system. Once the problem of information security occurs, accounting work will be seriously affected, so we must pay attention to the standardized development of accounting security and information technology. If there is no standardized standard, information security will be threatened, or important data is illegally occupied,

unable to get the corresponding policy and regulation support, so the development of accounting information security is increasingly serious.

3. Countermeasures to Improve the Security of Accounting Information System in the Era of Big Data

3.1. Reasonable Allocation of Equipment Resources
For the accounting information system, both hardware and software are important components, so the security of the hardware system is also worth our attention.

First of all, when buying computer hardware, we need to understand the size of the brand, model and the manufacturer's reputation, and carefully check whether the hardware problems appear, after constant debugging and running, then put it into the actual use of the enterprise, to ensure that it plays a better role. Secondly, in the process of accounting information system application, should guard against the hidden trouble of the hardware system.

Due to the unpredictability of natural disasters, when dealing with these risks, a more perfect prevention system should be built from the perspective of prevention. For example, the environment where computers are placed should be kept relatively dry and ventilated, so as to avoid the occurrence of floods and fires.

Other factors affecting safety. Magnetic field is a factor that people tend to ignore and has a great influence on computer and accounting information system. Special attention should also be paid to antimagnetic, and corresponding systems should be built to avoid computer contact with nearby magnetic materials. In some areas, such as earthquake, typhoon sudden disasters, the threat of political environment factors also need to arouse people's attention, in order to deal with the threat of a special, we need to establish a more complete data backup system, guarantee the key data can be effectively protected, and by setting the alarm, purchase counter to reduce computer equipment such as the possibility of theft.

3.2. Strengthen the Security Prevention Ability of Accounting Information System
Computer software is a lot of software engineers and programmers to hard work for a long time, but also hard to avoid can appear some cracks phenomenon, the error is in the normal operation of the accounting information system in the process of prominent problems, will affect the normal function and the role of accounting information system, so when to buy and install, need to debug before operation. In daily use, it is necessary to pay attention to and record abnormal situations of the running software at any time, install patches in time for modification, and regularly scan and analyze the software system to solve software vulnerabilities.

Anti-virus software is usually used to kill viruses, and network anti-virus software is used to prevent network viruses. Anti-virus software is one of the most effective means of preventing and controlling computer viruses, but no anti-virus software can stop all computer viruses. Therefore, we need to choose anti-virus software at any time, update anti-virus software at any time, effectively protect the security of the computer system. Enterprise network security and campus environment network security can be protected through anti-virus software, to protect the environment security, from the virus and attack. Network virus prevention and control system through remote LAN centralized security management, account password Settings. Can achieve a certain network virus prevention and control effect. It can use advanced distribution techniques to kill viruses on all local nodes in a comprehensive, timely, and efficient manner using locally available resources and local antivirus engines. At the same time, it can protect users' privacy, reduce the burden of network transmission, and avoid the congestion caused by a large number of transmitted files.

To make regular backup of important data, regular data backup is helpful to protect the important data of the enterprise. Enterprises should provide regular backup of data, and classify the data according to the situation. Some important data often have relatively high backup frequency, so as to

ensure that important data can be timely repaired after system problems or virus attacks occur. Enterprises can also through the backup system area, for the newly installed system for disk backup, accounting information system data security protection.

Due to the omission programmers, can lead to severe bugs in accounting information system, these bugs causing collapse of the accounting information system and even cannot work normally, the potential risk of severe affected the accounting work, so when buying accounting information system, should pay attention to the reputation of the manufacturers, after-sales service, software using the enterprise reflects the situation assessment, such as strengthen the analysis and management.

3.3. More Efforts Should be Made to Cultivate Talents with Professional Skills and Qualities

The thought morality and professional ability of internal accountant are of great significance to the safe development of accounting information system. In view of the familiar with and understanding of the system, once the system is broken, will have a big impact, therefore, to strengthen the cultivation of accounting practitioners is the key to improve the current development problems, from personnel of course of study to strengthen the study of system security knowledge, skilled application, can accurately identify the potential risk, and find effective solution. Therefore, we should pay attention to the construction of compound accounting personnel, insist on continuing education of accounting personnel, improve the knowledge structure, improve the level of computer application, and cultivate compound talents.

3.4. Strengthen Supervision and Formulate Relevant Supervision Systems and Regulations

First of all, by perfecting the accounting information system and the access channels of accounting information resources, the establishment of a comprehensive, multi-level, three-dimensional protection system, to ensure the absolute security of the accounting information environment. Secondly, establish the internal and external contact mechanism of accounting information to eliminate the threat of collusion between practitioners and hackers. Third, the effective protection of accounting information platform needs to be constantly strengthened. The processing and protection of accounting information should be combined effectively under the premise of ensuring the integrity and effectiveness of accounting data. Finally, continue to deepen the overall control of accounting information. Through the establishment of accounting information security system, the establishment of accounting information data protection and processing of new system and new mode, improve the efficiency of accounting information processing.

In addition, the overall structure of the accounting industry should be adjusted. For example, the government department can lead the transfer of accounting industry. To a accounting information management center, perfecting the accounting industry environment accounting information data processing, delimit the responsibility of accounting information, improve the quality of accounting information and accounting data network the ability to work, to ensure that the accounting information data transmission on the network platform will not be cut off, to build a mutual assistance, mutual, mutual insurance complete closed loop, the responsibility for the safety of the accounting data information to each link. Only in this way can the integrity and operability of the accounting information system protection chain be effectively guaranteed and the ultimate goal of accounting information integrity and accounting information system protection be achieved.

4. References

[1]   Ding Manman. On the Risks and Countermeasures of accounting informatization of Small and Medium-sized Enterprises in China[J]. China Market,2019(52):96-97.

[2]   Zhou Wenqin. Risks of Accounting Informatization in the Data Age and countermeasures [J]. Contemporary Economics,2019(26):64-65.

[3]   zhaoyun. Risk and prevention countermeasures of accounting informatization based on big data era[J]. Operation And Management,2018(34):306.

[4]   Wang Zheng, Li Lu. Risk and Prevention of Accounting Informationization in the Era of Big

data Fan Countermeasures [J]. Modern Economic Information,2018(23):157-158.

[5]   Wu Jianpeng. Risks and Preventive measures of enterprise Accounting Informatization in the Era of Big data [J]. Journal of Hubei Correspondence University,2019(8):95-96.